

and less contracted than the preceding; the pores on the surface are more distinct, and are furnished with more or less dark polypes, which are all expanded. The polypes in one specimen (which is in the most perfect condition) are all entirely of a uniform black-brown colour. In one of the other specimens (also in a good condition) the polypes are pale brown, with a broad black lower ring at the upper part of the tubular body, near the base of the arms. In the other specimen (which is imperfect) the polypes are all pale brown, like the coral.

In all the three specimens the polypes at the lower half of the club are further apart than they are at the tip; this is especially the case in the specimen which has the dark ring on the polypes, where the polypes in the lower part of the club are very far apart and few in number, and appear as if placed in longitudinal lines. I should propose to call this species provisionally *Lituaria australis*.

5. DESCRIPTION OF TWO NEW GENERA OF ZOOPHYTES (SOLENOCAULON AND BELLONELLA) DISCOVERED ON THE NORTH COAST OF AUSTRALIA BY MR. RAYNER. BY DR. JOHN EDWARD GRAY, F.R.S., V.P.Z.S., F.L.S., ETC.

Among the numerous interesting animals collected by Mr. Rayner during the voyage of H. M. S. 'Herald' is a new form of coral, nearly allied to *Gorgonia*, and especially to the coral called *Cœlogorgia* by M. Milne-Edwards, but very distinct from it. I therefore send a description of it to the Society for publication in the 'Proceedings.'

SOLENOCAULON.

The coral coriaceous, tubular, circular, and simple below, compressed, subquadrangular, tortuous, and more or less branched above, the branches being similar in size and form to the main stem. The main stem and branches furnished with more or less elongate, subsolid, slender branchlets, which are placed on the edge of the large holes in the main stem and branches which communicate with the main tube. These branchlets (and sometimes the branches at the base of them) are furnished with large cells for the polypes, which are placed in one (more frequently in two) series on each side of the branchlets, and sometimes the series are continued on the main stem or branches at the bottom of the branchlets. The polype-cells are rather large, circular, nearly superficial, and furnished with a cup divided into eight conical, connivent lobes, each lobe being formed of some transverse spicules at the base and some obliquely-placed spicules diverging from each lateral edge towards the top above.



1. SOLENOCAULON TORTUOSUM.

Hab. North Australia.

This genus seems to form a particular group of the *Alcyonaires*, which may be called after this genus *Solenocaulonidæ*, characterized by the tubular form of the axis, the tubes being formed of a thin coriaceous substance. The smaller branches are subsolid and cellular within, but they soon become hollow. It has been said that the tubular form arises from the abortion of the epithelic tissue of the centre of the axis. This may be true if we can regard the large lax cells in the interior of the young branchlet as epithelic tissue; but the inner surface of the tube of the axis is quite smooth and simple, and the branchlets never become large like the main stem.

This coral cannot be considered as a solid stem becoming hollow, as the last-formed (younger) parts at the end of the branches are in the form of a foliaceous expansion, which gradually folds up together on itself, coalesces, and forms a tube nearly of the same diameter as the main stem. The large apertures which occur in the stem and base of the branches, and communicate with the central cavity, are the parts of the expanded lamina which have not been closed in when the other portions of the tube were formed.

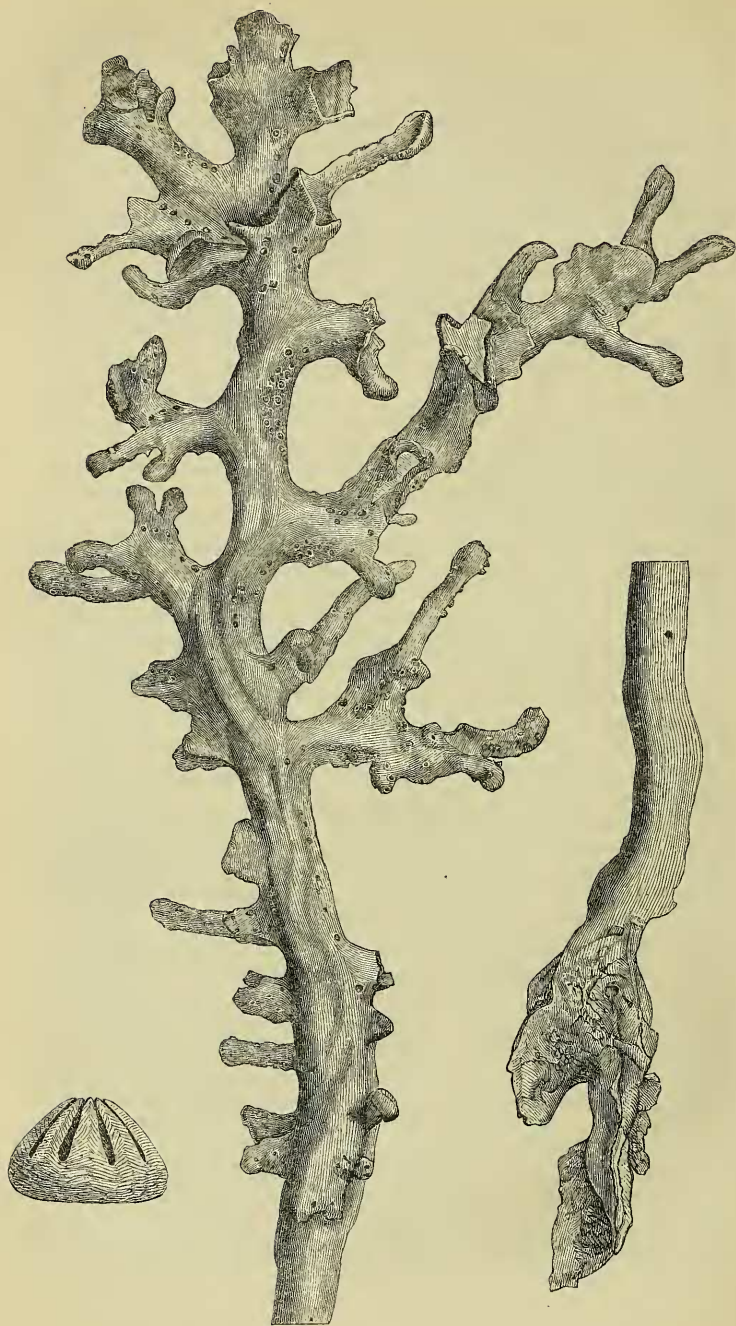
The specimen described evidently grew in a nearly horizontal position; for one side of the main stem and branches is entirely without any cells, and the branchlets on the same side are fewer than on the other, showing that this part was beneath, and not exposed to the light. I do not give this as the generic or specific character, as it may be only incidental to the specimen—a fact that can only be determined by the examination of a larger number of examples. Mr. Holdsworth has suggested that it may be the same as or allied to *Gorgonia trichostemma* of Dana (Zoophytes, 665, t. 59. f. 3); but Dana does not describe the main stem as tubular. But the coral is, like many others in his work, so badly figured and described that it is impossible to determine with any certainty what it is intended to represent. Milne-Edwards seems to have been equally doubtful (see *Coralliaires*, i. 154) as to its affinities.

The genus *Ceelogorgia* of Milne-Edwards (*Coralliaires*, vol. i. p. 191) should be placed in the same family. It is described as arborescent, very branching, and with slender cylindrical branches with scattered, subcylindrical, elongate polype-cells. Only one species is known, viz. *G. palmosa*, from Zanzibar.

Among the specimens preserved in spirits in the same collection there is also a new form of *Alcyon*, which seems to me to be a type of a new genus allied to *Xenia*, but quite distinct from it both in the form of the cells and in the polypes being completely retractile. It has some characters in common with my genus *Nidalia*, described in the 'Proceedings of the Zoological Society,' 1835, p. 6, and figured, *Radiata*, Pl. III. fig. 2, but differs from it in the surface of the coral being minutely granular, and not spiculose.

BELLONELLA.

Coral cylindrical, formed of a number of subcylindrical tubes agglutinated together and forming at the top a hemispherical head of subcylindrical prominent cells, which are angular at the tip. The



outer surface of the coral is minutely granular. The polypes are completely retractile; the base of their tubes is strengthened with very minute spicula, placed in a longitudinal series parallel to each other.

1. *BELLONELLA GRANULATA*. (Woodcut, p. 36.)

Hab. Bellona Reefs, 17 fathoms (*T. M. Rayner, Esq.*).

6. CONTRIBUTION TO THE KNOWLEDGE OF THE BRITISH CHARRS.
BY DR. ALBERT GÜNTHER.

(Plates V., VI., VII.)

The production of the following paper has been induced by two specimens of the so-called Freshwater Herring of Lough Melvin in Ireland, which were procured by Joshua Walker, Esq., and submitted to my examination. The differences from the allied Continental species were so striking, that from the first moment I could scarcely doubt that I had a species before me which I had never seen before. In the first place it appeared necessary to compare it with specimens from other localities of Great Britain—with the true British Charr; but, although the period of the year (November and December) appeared to be the most favourable for the capture of those fishes, as they approach the shores to spawn, afterwards returning to the deepest parts of the lakes, I have been only partly successful in obtaining more specimens, and I particularly regret not having been able to examine specimens from Scotland, either in a fresh state or preserved in spirits*. I have obtained, however, materials sufficient for the determination of the Charrs of three localities, by the kind assistance of the gentlemen who will be mentioned hereafter. Our knowledge of the representatives of the Charr on the Continent is chiefly due to Heckel, Nilsson, and Rapp, in whose descriptions due attention has been paid to those characters by which the species may be distinguished; and for a comparison of the British Charrs with those of the Continent I have had to rely chiefly on them. My materials were the following:—

a. *Freshwater Herring of Lough Melvin.*

Two fresh specimens, mature males; by the kindness of J. Walker, Esq.

One specimen (dried skin) in the British Museum.

b. *Welsh Charr, or Torgoch.*

Nearly twenty specimens from Llanberris, all mature males; received by the kindness of S. P. W. Ellis, Esq., Chief Constable of Carnarvonshire, and G. Ellis, Esq.

Four young specimens from the lake Coss-y-gedawl, transferred

* Dried and stuffed specimens of Charr are of little or no use.